

42 ANSWER 294 OF 798 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1997:526861 CAPLUS

DOCUMENT NUMBER: 127:253517

TITLE: Influence of **citric** acid and pH on the zeta potential of Cu(II) and Cr(III) hydroxide sols

AUTHOR(S): Nguyen, Hanh; Ha, Thi Tuyet Nhung; Vu, Thi Kim Loan

CORPORATE SOURCE: Dept. Chem., Na Noi Polytechnic Inst., Vietnam

SOURCE: Tap Chi Hoa Hoc (1997), 35(1), 8-10, 19

CODEN: TCHHDC; ISSN: 0378-2336

PUBLISHER: Toa Soan Tap Chi Hoa Hoc

DOCUMENT TYPE: Journal

LANGUAGE: Vietnamese

CLASSIFICATION: 66-4 (Surface Chemistry and Colloids)

ABSTRACT:

The influence of molar ratio **citric** acid:Mn<sup>+</sup> (with Mn<sup>+</sup> = Cu<sup>2+</sup>, Cr<sup>3+</sup>) and pH upon the zeta potential of metal hydroxide sols has been investigated. First zeta potential decreases with increasing the molar ratio **citric** acid: Mn<sup>+</sup> and pH (from pos. to neg.) then goes through a min. (at AC:Cu<sup>2+</sup> = 0.65 and pH = 6.4 and AC:Cr<sup>3+</sup> = 1.15 and pH = 4.7) and finally increases. The shape of this variation proves **citric** acid has participated in the building of the surface structure of colloidal particles. Results obtained are

a theor. basis for complex metal oxide CuCr<sub>2</sub>O<sub>4</sub> synthesis by two sol-gel

\*\*\*citrate\*\*\* methods: colloidal gel and polymeric gel **citrate**.

SUPPL. TERM: **sol copper** chromium hydroxide  
**citric** acid; zeta potential **copper**  
chromium hydroxide **sol**; particle **sol**  
**copper** chromium hydroxide

INDEX TERM: Particles  
Sols  
Zeta potential

(influence of **citric** acid and pH on the zeta potential of Cu(II) and Cr(III) hydroxide sols)  
INDEX TERM: 77-92-9, properties 1308-14-1, Chromium hydroxide Cr(OH)<sub>3</sub>  
20427-59-2, Copper hydroxide Cu(OH)<sub>2</sub>  
ROLE: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)  
(influence of **citric** acid and pH on the zeta potential of Cu(II) and Cr(III) hydroxide sols)

L13 ANSWER 214 OF 228 CAPLUS COPYRIGHT 2002 ACS  
ACCESSION NUMBER: 1938:36846 CAPLUS  
DOCUMENT NUMBER: 32:36846  
ORIGINAL REFERENCE NO.: 32:5145g-i  
TITLE: New remedies against vine diseases  
AUTHOR(S): Casale, Luigi  
SOURCE: Ricerca sci. (1936), 7;II, 604-9  
DOCUMENT TYPE: Journal  
LANGUAGE: Unavailable  
CLASSIFICATION: 15 (Soils, Fertilizers, and Agricultural Poisons)  
ABSTRACT:

With a view to reducing the quantity of  $\text{CuSO}_4$  entering into the compn. of Bordeaux mixt., a study was made of the comparative action of certain substances capable of holding in **colloidal** suspension the  $\text{Cu}(\text{OH})_2$  formed by neutralization of the sol. Cu salts, and hence to increase the amt. of available Cu present in the mixt. To this end, mixts. were prepd. contg., per 100 l. of water, 100 or 200 g.  **$\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$**  together with variable amts. of Na nitrate, pyrophosphate or oxalate; the variable mixts. were brought to the suitable pH value by addn. of the requisite amt. of NaOH or of  $\text{Na}_2\text{SO}_3$ . The detn. of the available Cu (suspended Cu) in these mixts. showed that the use of Na citrate increased considerably the degree of dispersion of the Cu; the diffusion of the latter is still further increased in the presence of an Fe salt. Practical field tests confirmed the results obtained in the lab.; by neutralizing the  $\text{CuSO}_4$  with  $\text{Na}_2\text{CO}_3$  in the presence of Na citrate ( **\*\*\* $\text{CuSO}_4$ \*\*\***  **$\cdot 5\text{H}_2\text{O}$**  100 g.,  $\text{FeSO}_4$  100 g., citric acid 50 g., for 100 l. of water) the same effects are obtained as with ordinary Bordeaux mixt., and with only one-tenth the amt. of  $\text{CuSO}_4$ .

L10 ANSWER 172 OF 179 CAPLUS COPYRIGHT 2002 ACS  
ACCESSION NUMBER: 1922:7969 CAPLUS  
DOCUMENT NUMBER: 16:7969  
ORIGINAL REFERENCE NO.: 16:1349f-h  
TITLE: **Colloidal copper hydroxide**  
AUTHOR(S): Paal, C.; Steyer, Hermann  
SOURCE: Kolloid-Z. (1922), 30, 1-5  
DOCUMENT TYPE: Journal  
LANGUAGE: Unavailable  
CLASSIFICATION: 2 (General and Physical Chemistry)  
ABSTRACT:

When **copper sulfate** is added to a 2% soln. of sodium prot-  
or lysalbinat contg. NaOH, a hydrosol of **copper hydroxide**  
is formed. The colloid is greenish blue by transmitted light, sky blue and  
opalescent in reflected light. If the soln. of the albinat is heated for some  
time with NaOH before addition of the CuSO<sub>4</sub> the protective power is greatly  
increased. By evapn. on a water bath at not over 60.degree. and 20-25 mm.  
pressure and drying in vacuo, a solid product contg. as high as 50% Cu(OH)<sub>2</sub> is  
obtained which redissolves in water to give the original sol. If the evapn. is  
carried out over a boiling water bath the colloid turns to brown by  
transmitted, greenish brown by reflected light. This is colloidal cupric  
oxide.

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L10 ANSWER 137 OF 179 IFIPAT COPYRIGHT 2002 IFI DUPLICATE 17  
 AN 1310745 IFIPAT;IFIUDB;IFICDB  
 TITLE: METHOD FOR IMPROVING THE LIGHT FASTNESS OF NYLON  
 DYEINGS USING **COPPER PHOSPHATE**;  
 EXHAUSTION ONTO FIBERS EITHER BEFORE, DURING OR AFTER  
 APPLYING DYE  
 INVENTOR(S): Bannigan, Jr, Vincent W, Pottstown, PA  
 PATENT ASSIGNEE(S): Crompton & Knowles Corporation, New York, NY  
 PRIMARY EXAMINER: Schofer, Joseph L  
 ASSISTANT EXAMINER: Tungol, Maria Parrish  
 AGENT: Elliott, Jr, William H  
 Synnestvedt & Lechner

	NUMBER	PK	DATE
PATENT INFORMATION:	US 4253843		19810303
	(CITED IN 006 LATER PATENTS)		
APPLICATION INFORMATION:	US 1979-33202		19790425
EXPIRATION DATE:	25 Apr 1999		
FAMILY INFORMATION:	US 4253843		19810303
DOCUMENT TYPE:	UTILITY		
FILE SEGMENT:	CHEMICAL		
	GRANTED		

#### ABSTRACT:

The specification is directed to a method for enhancing the light fastness of dyed and undyed nylon textile fibers and to the treated fibers produced thereby. The beneficial effect is obtained by applying at least 3 parts per million colloidal phosphate to the fiber by exhaustion from an aqueous medium; the treatment being effected either before dyeing, simultaneously with or after the dye has been applied to the fiber.

NUMBER OF CLAIMS: 19

#### EXEMPLARY CLAIM(S):

1. THE METHOD OF IMPROVING THE LIGHT FASTNESS OF DYED NYLON TEXTILE FIBERS WHICH METHOD COMPRISES EXHAUSTING **COPPER PHOSPHATE** ONTO THE FIBERS FROM A SOLVENT SYSTEM OR FROM AN AQUEOUS BATH AND DEPOSITING ON THE FIBER AT LEAST 3 PARTS BY MILLION **COPPER PHOSPHATE** BASED ON THE FIBER WEIGHT, THE DEPOSITION OF THE **COPPER PHOSPHATE** BEING EFFECTED BEFORE, SIMULTANEOUSLY WITH OR AFTER THE DYE HAS BEEN APPLIED TO THE FIBERS.

#### NON-EXEMPLARY CLAIM(S):

2. The method of improving the light fastness of dyed nylon textile fibers dye which method comprises exhausting **copper phosphate** onto the fibers from an aqueous bath and depositing on the fiber at least 3 parts per million **copper phosphate** based on the fiber weight; the deposition of the **copper phosphate** being effected before, simultaneously with or after the dye has been applied to the fibers.  
 3. The method according to claim 1 or 2 wherein from about 3 to 7500 parts per million **copper phosphate** are exhausted onto the fibers.  
 4. The method according to claim 1 or 2 wherein about 750 to 1500 parts per million **copper phosphate** are exhausted onto the fibers.  
 5. The method according to claim 1 or 2 wherein the exhausting of the \*\*\*copper\*\*\* **phosphate** is carried out under pressure and at elevated temperatures below the boiling point of the bath or system at the prevailing pressure.  
 6. The method according to claim 1 or 2 wherein the exhausting of the

\*\*\*copper\*\*\* **phosphate** is carried out from a solvent system or from an aqueous bath maintained at elevated temperatures approaching the boiling point of the system or bath.

7. The method according to claim 2 wherein the **copper** \*\*\*phosphate\*\*\* is applied by passing the textile fibers through an aqueous bath containing the **copper phosphate** and after the fibers have passed through the bath subjecting heating the wetted fibers under time and temperature conditions.

8. The method according to claim 2 wherein the **copper** \*\*\*phosphate\*\*\* is applied by passing the textile fibers through an aqueous bath containing the **copper phosphate** and after the fibers have passed through the bath subjecting them to steaming for a sufficient time to cause the **copper phosphate** to penetrate beneath the surface of the fibers.

9. The method according to any of claims 1 to 8 wherein the fibers undergoing treatment are undyed.

10. The method according to any of claims 1 to 8 wherein the fibers have been dyed prior to the depositing of the **copper phosphate** thereon.

11. The method according to any of claims 1 to 8 wherein the solvent system or aqueous **copper phosphate** bath also contains a dye capable of dyeing the nylon fibers undergoing treatment.

12. The method according to any of claims 1 to 10 wherein the pH of the bath is sufficiently high that the **copper phosphate** exhausted onto the nylon fibers is in colloidal form.

13. The method according to claim 2 wherein the **copper** \*\*\*phosphate\*\*\* is added to the bath as an aqueous solution of **copper** \*\*\*phosphate\*\*\* in a slight stoichiometric excess of orthophosphoric acid and the pH of the bath is raised by the addition of an alkaline material to a point sufficient to form **colloidal copper phosphate** and exhausting the **colloidal copper phosphate** onto the nylon.

14. As an article of manufacture a nylon textile treated by the method of any of claims 1 to 13.

15. Dyed nylon textile fiber carrying, in addition to any **copper** that may have been incorporated in the fiber during its manufacture, at least 3 parts per million **colloidal copper phosphate** (based on the fiber weight).

16. Nylon textile fiber carrying, in addition to any **copper** incorporated in the fiber during its manufacture, at least 3 parts per million \*\*\*colloidal\*\*\* **copper phosphate** (based on the fiber weight).

17. Nylon textile fiber carrying from about 3 to 7500 parts per million \*\*\*colloidal\*\*\* **copper phosphate** (based on the weight of the fiber).

18. Nylon textile fiber carrying from about 3 to 1500 parts per million \*\*\*colloidal\*\*\* **copper phosphate** (based on the fiber weight).

19. A fiber according to claim 17 or claim 18 also carrying a dye.

CITED US REFERENCES:	US 2206278	Jul 1940	008165000	Dreyfus
	US 3332732	Jul 1967	008165000	Karoly
FOREIGN REFERENCES:	JP 43020969	Sep 1968	008165000	
U.S. PATENT CLASSIF.:				
MAIN:	008624000			
SECONDARY:	008442000			
INT. PATENT CLASSIF.:				
MAIN:	D06P005-02			
SECONDARY:	D06P005-10			
FIELD OF SEARCH:	008074000; 008082000; 008165000; 008442000;			
	008624000; 428267000			
ART UNIT:	144			

L10 ANSWER 171 OF 179 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1924:957 CAPLUS

DOCUMENT NUMBER: 18:957

ORIGINAL REFERENCE NO.: 18:145d-e

TITLE: **Colloidal copper hydroxide**  
as a fungicide

AUTHOR(S): Hooker, H. D., Jr.

SOURCE: Ind. Eng. Chem. (1923), 15, 1177-8

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

CLASSIFICATION: 15 (Soils, Fertilizers, and Agricultural Poisons)

ABSTRACT:

Preliminary expts. indicate that  $\text{Cu}(\text{OH})_2$  prepd. as a colloid is fungicidal to apple scab and apple blotch in concns. of 1 pt. to 5000 of  $\text{H}_2\text{O}$ . At this concn. it produces very slight burning. It has excellent sticking properties due to its positive charge, and spreads well in dil. soln. It can be used in conjunction with Pb arsenate and nicotine sulfate.

L12 ANSWER 118 OF 483 CROPU COPYRIGHT 2002 THOMSON DERWENT

ACCESSION NUMBER: 2000-85793 CROPU G D

TITLE: Gastropoda repellent for agricultural and horticultural use  
contains inorganic oxide **colloidal** solution,  
comprising **copper** component and has specified mean  
particle diameter.

INVENTOR: ---

PATENT ASSIGNEE: Shokubai-Kasei-Kogyo

LOCATION: Jap.

PATENT INFO: JP 2000044418 A 20000215

APPLICATION INFO: JP 1998-244337 19980728

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

OTHER SOURCE: WPI: 2000-217892

#### ABSTRACT:

A gastropod repellent is claimed, containing an inorganic oxide  
\*\*\*colloidal\*\*\* solution in which **copper** components in the form of  
inorganic oxide microparticles (mean particle diameter 500 nm or less) are  
dispersed. The agent is claimed to be useful as a repellent of snails and  
slugs in agricultural and horticultural fields. In an example, a 0.5% (wt)  
\*\*\*copper\*\*\* **nitrate** solution (24 g **copper**  
\*\*\*nitrate\*\*\* in 3648 g water) was added to 4 kg of 1% titanium dioxide  
colloid aqueous solution; the mixture was subjected to ultrafiltration and  
concentration to give a stable **copper** in titanium **colloid**  
of pH 8.1 and concentration 10%. The repellent was added to pots, in which  
orchids were planted, and to each of which 10 slugs (*Incilaria bilineata*) were  
added, at 27 deg and 75% humidity, and caused complete repellence to the slugs.  
Similar results were achieved with a mixture of copper and zinc nitrates.

#### ABSTRACT EXTENSION:

Handling is simple; the agent is safe for humans and animals. The agent is not  
washed out by rain, thus is persistent for a long time period. It has  
excellent dispersibility. Mixing with products such as fiber and resin is  
easy, hence the utilization range is wide. (4)

SUBJECT HEADING: G Galenics  
D Molluscicides

#### CONTROLLED TERM:

ORCHID \*TR; INCILARIA \*TR; BILINEATA \*TR; PHILOMYCIDAE \*TR;  
ORNAMENTAL \*TR; CROP \*TR; MOLLUSCA \*TR; MOLLUSC-REPELLENT  
\*FT; MOLLUSC-REPELLENTS \*FT; COMB.PREP. \*FT; COMB.ADDITIVE  
\*FT; COLLOID \*FT; TITANIUM-DIOXIDE \*FT; SOLUTION \*FT;  
DISPERSION \*FT; PH-PK \*FT; BIOASSAY \*FT; DOSAGE \*FT; POT-TEST  
\*FT; FORMULATION \*FT; CUPRIC-NITRATE \*OC; CUPRIC-NITRATE \*TR;  
CUPRICNO3 \*RN; OC \*FT; TR \*FT; ZINC-NITRATE \*OC; ZINC-NITRATE  
\*TR; ZNNITRATE \*RN

FIELD AVAIL.: AB; LA; CT

L10 ANSWER 163 OF 179 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1973:470534 CAPLUS

DOCUMENT NUMBER: 79:70534

TITLE: Precipitation and characterization of  
**colloidal copper** hydrous oxide sols

AUTHOR(S): McFadyen, Peter; Matijevic, Egon

CORPORATE SOURCE: Inst. Colloid Surf. Sci., Clarkson Coll. Technol.,  
Potsdam, N. Y., USA

SOURCE: J. Inorg. Nucl. Chem. (1973), 35(6), 1883-93  
CODEN: JINCAO

DOCUMENT TYPE: Journal

LANGUAGE: English

CLASSIFICATION: 66-4 (Surface Chemistry and Colloids)

ABSTRACT:

The results of aging at 25 and 75.degree. solns. contg. Cu(NO3)2, CuSO4, and Cu(NO3)2-KH2PO4 mixts. were presented as log Cu salt concn.-pH domains, which gave the soly. and various pptn. regions. The solid phase sepg. from soln. was either Cu(OH)2, complex basic salts, or CuO, depending on the conditions. The particle size and shape characteristics in each pptn. region were detd. by electron microscopy. Some Cu(II) hydrous oxide sols were purified and restabilized and their electrophoretic mobilities and stabilities were detd. as a function of pH and electrolyte concn. The sols had a zero point of charge at approx. pH 5. At high pH the sols were sufficiently strongly neg. charged to give a stable sol. The presence of surfactants during the pptn. and aging processes affected the properties of the sols produced.

SUPPL. TERM: copper hydrous oxide sol

INDEX TERM: 1317-38-0, properties

ROLE: PRP (Properties)

(characterization of hydrous sols of)

INDEX TERM: 3251-23-8 7758-98-7, reactions

ROLE: PRP (Properties)

(pptn. of copper hydrous oxide sols from)

INDEX TERM: 7778-77-0

ROLE: PRP (Properties)

(pptn. of **copper** hydrous oxide sols from aq.

mixts. of, with **copper nitrate**)

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L12 ANSWER 471 OF 483 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1955:73982 CAPLUS

DOCUMENT NUMBER: 49:73982

ORIGINAL REFERENCE NO.: 49:14089e

TITLE: A proposed test for **colloid** lability with  
**copper sulfate**

AUTHOR(S): Rizzo, A.

CORPORATE SOURCE: Univ. Messina, Italy

SOURCE: Boll. soc. ital. biol. sper. (1955), 31, 118-20

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

CLASSIFICATION: 11B (Biological Chemistry: Methods and Apparatus)

ABSTRACT:

The reaction to  $\text{CuSO}_4$  is more sensitive than that to  $\text{CdSO}_4$  in cases of fibrosclerosis, tuberculous infiltration, epidemic hepatitis, leishmaniasis, and acute infections.

L11 ANSWER 659 OF 673 CROPU COPYRIGHT 2002 THOMSON DERWENT  
ACCESSION NUMBER: 1998-83304 CROPU I G S  
TITLE: External use antimycotic, ectoparasiticide composition  
contains **copper** oleate as active ingredient.  
INVENTOR: Katz J; Fernandez Carbajales J  
LOCATION: Buenos Aires, Arg.  
PATENT INFO: NZ 314640 A 19971024  
APPLICATION INFO: AR 1996-102297 19960424  
NZ 1997-314640 19970421  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
OTHER SOURCE: WPI: 1998-075141 [07]

ABSTRACT:

A composition with ectoparasiticide and antimycotic activity, with  
\*\*\*copper\*\*\* oleate as the active ingredient, in the form of an aqueous  
\*\*\*colloidal\*\*\* scattering, is described. The composition is in the form of  
a shampoo comprising 0.1-2% w/w **copper** oleate (plus 25% Na  
lauryl ether **sulfate** aqueous solution, coconut fatty acid  
diethanolamide, fragrance and water), a lotion containing 0.1-3% w/w  
\*\*\*copper\*\*\* oleate (plus 25% Na lauryl ether **sulfate** aqueous solution,  
alquilodamide, polyvinylpyrrolidone (polyvidone), glycerine, fragrance and  
water), or a cream containing 0.1-1.5% w/w **copper** oleate (plus  
stearic acid, glycerine, glycerine (sic), aqueous ammonia, fragrance and  
water). This composition gives practically **no** cutaneous absorption  
of **copper**, limiting toxic and irritant effects.

ABSTRACT EXTENSION:

**Copper** oleate is used as an ectoparasiticide and antimycotic product  
for external use e.g. to treat lice and mites and as an insecticide, for  
external use in human and veterinary medicine. The shampoo preparation  
described contains (w/w): 0.1-2% **copper** oleate, 20-40% 25% Na  
lauryl ether **sulfate** aqueous solution + coconut fatty acid diethanolamide (1:3)  
0-1% fragrance and distilled water to 100%. The lotion contains (for every  
100  
g product): 0.1-3 g **copper** oleate, 5-15 g 25% Na lauryl ether **sulfate**  
aqueous solution, 0.5-1.5 g alquilodamide, 0.2-0.8 g polyvidone, 0.5-15 g  
glycerine, 0-1 g fragrance and sufficient distilled water to make the  
composition up to 100 cc. The cream contains (for every 100 g product):  
0.1-1.5  
g **copper** oleate, 15-25 g stearic acid, 15-25 g glycerine, 30-50 g  
glycerine (sic), 2-4 cc aqueous ammonia, 0-1 g fragrance and distilled water  
to  
make the product up to 100 g. The composition is easy to apply, is a non skin  
and mycoses irritant, has a very low risk of allergic episodes, may be used  
continuously, is virtually atoxic and may be used for any age of patient. (11

SUBJECT HEADING: I Insect Control  
G Galenics  
S Toxicology

CONTROLLED TERM:

COPPER-OLEATE \*TR; COPPER-OLEATE \*ST;  
HUMAN \*ST; CUOLEATE \*RN; INSECTICIDE \*FT; ACARICIDE \*FT;  
SHAMPOO \*FT; CREAM \*FT; LOTION \*FT; COMP. \*FT; COMB.ADDITIVE  
\*FT; ABSENCE \*FT; INTOXICATION \*FT; DERMAL \*FT; IRRITATION  
\*FT; LAURYL SULFATE SODIUM \*FT; COCOAMINOPEG \*FT;  
ALQUILODAMIDE \*FT; POLYVIDONE \*FT; GLYCEROL \*FT;  
AMMONIUM-HYDROXIDE \*FT; FORMULATION \*FT; SKIN \*FT;  
ANIMAL-TISSUE \*FT; **BACTERICIDES** \*FT; TR \*FT; ST \*FT  
AB; LA; CT

FIELD AVAIL.:

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L11 ANSWER 657 OF 673 CROPU COPYRIGHT 2002 THOMSON DERWENT  
ACCESSION NUMBER: 2001-83357 CROPU G F I  
TITLE: **Antimicrobial** emulsion.  
INVENTOR: Zhang Y; Zhang X; Xu Z  
LOCATION: China  
PATENT INFO: CN 1148935 A 19970507  
APPLICATION INFO: CN 1996-111461 19960904  
DOCUMENT TYPE: Patent  
LANGUAGE: Chinese  
OTHER SOURCE: WPI: 2001-160271

ABSTRACT:

A **colloidal** suspension is claimed as a disinfectant for preventing and eliminating diseases and pests of fruit trees, vegetables, cotton, tobacco, etc. It is prepared from **copper sulfate**, calcium hydroxide, macro-molecular organic acid, surfactant, anti-icing agent, defoaming agent and water, and features low residual toxicity and high effect; it promotes plant growth and photosynthesis and increases plant yield as the disinfecting effect of **copper** increases and the existence of free \*\*\*copper\*\*\* decreases. (4 pp.) (No EX).

ABSTRACT EXTENSION:

SUBJECT HEADING: G Galenics  
F Fungicides  
I Insect Control

CONTROLLED TERM:

**COPPER-SULFATE \*TR; FUNGUS \*TR;**  
**BACTERIUM \*TR; INSECTA \*TR; FRUIT-CROP \*TR; VEGETABLE**  
**\*TR; COTTON \*TR; FIBER \*TR; TOBACCO \*TR; CROP \*TR; CUSO4**  
  
\*RN;  
**BIOASSAY \*FT; DOSAGE \*FT; FUNGICIDE \*FT;**  
**BACTERICIDE \*FT; INSECTICIDE \*FT; SUSPENSION \*FT;**  
**COLLOID \*FT; COMB.ADDITIVE \*FT; CALCIUM-HYDROXIDE \*FT;**  
**INCREASE \*FT; YIELD \*FT; FORMULATION \*FT; FUNGICIDES**  
**\*FT; HERBICIDES \*FT; ALGICIDES \*FT; MICRONUTRIENTS \*FT;**  
**TR \*FT**  
FIELD AVAIL.: AB; LA; CT

L42 ANSWER 400 OF 798 CAPLUS COPYRIGHT 2002 ACS  
 ACCESSION NUMBER: 1995:258826 CAPLUS  
 DOCUMENT NUMBER: 122:60684  
 TITLE: Stable **copper** metallic **colloids**:  
 preparation, photochemical and catalytic properties  
 AUTHOR(S): Loginov, A. V.; Alekseeva, L. V.; Gorbunova, V. V.;  
 Shagisultanova, G. A.; Boitsova, T. B.  
 CORPORATE SOURCE: Ross. Gos. Pedagog. Univ., St. Petersburg, Russia  
 SOURCE: Zhurnal Prikladnoi Khimii (Sankt-Peterburg) (1994),  
 67(5), 803-8  
 CODEN: ZPKHAB; ISSN: 0044-4618  
 PUBLISHER: Nauka  
 DOCUMENT TYPE: Journal  
 LANGUAGE: Russian  
 CLASSIFICATION: 54-4 (Extractive Metallurgy)  
 Section cross-reference(s): 66, 67, 74  
 ABSTRACT:  
 Highly concd. solns. of colloidal Cu were obtained by electroless redn. of  
 Cu(II) **citrate** complexes with formaldehyde in viscous H<sub>2</sub>O-ethylene  
 glycol or H<sub>2</sub>O-glycerol media. New catalytic systems based on colloidal Cu for  
 the electroless metalization of dielecs. and conversion of MeOH to CH<sub>2</sub>O are  
 considered. The possible mechanisms of photochem. formation and decompn. of  
 colloids and the stabilizing role of the medium are discussed.  
 SUPPL. TERM: **copper colloid** catalyst electroless  
 metalization  
 INDEX TERM: Catalysts and Catalysis  
 (**colloidal copper** solns. for methanol  
 conversion to formaldehyde and electroless metalization  
 of dielecs.)  
 INDEX TERM: 50-00-0, Formaldehyde, processes 67-56-1, Methanol,  
 processes  
 ROLE: PEP (Physical, engineering or chemical process); PROC  
 (Process)  
 (**colloidal copper** solns. for methanol  
 conversion to formaldehyde and electroless metalization  
 of dielecs.)  
 INDEX TERM: 7440-50-8D, **Copper**, complex with **citric**  
 acid  
 ROLE: PEP (Physical, engineering or chemical process); RCT  
 (Reactant); PROC (Process); RACT (Reactant or reagent)  
 (formation of stable **copper colloids**  
 by redn. with formaldehyde)  
 INDEX TERM: 7440-50-8P, **Copper**, preparation  
 ROLE: CAT (Catalyst use); SPN (Synthetic preparation); PREP  
 (Preparation); USES (Uses)  
 (prepn. and photochem. and catalytic properties of  
 stable  
**copper metallic colloids**)

L42 ANSWER 785 OF 798 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1972:63761 CAPLUS

DOCUMENT NUMBER: 76:63761

TITLE: Role of the medium in **copper sol** formation

AUTHOR(S): Zasepa, Wojciech

CORPORATE SOURCE: Univ. A. Mickiewicza, Poznan, Pol.

SOURCE: Poznan. Tow. Przyj. Nauk, Pr. Kom. Mat.-Przyr., Pr. Chem. (1971), 12(5), 343-8  
CODEN: PZPCAF

DOCUMENT TYPE: Journal

LANGUAGE: Polish

CLASSIFICATION: 66 (Surface Chemistry and Colloids)

ABSTRACT:

The sol was prepd. by mixing 10 cm<sup>3</sup> 0.01M CuCl<sub>2</sub>, 10 cm<sup>3</sup> 0.2M Na **citrate** and an adequate amt. of org. solvent (MeOH, PrOH, and glycerol), followed by diln. with water to 75 cm<sup>3</sup> and addn. of 5 cm<sup>3</sup> 5% hydrazine hydrate. The process proceeded at 293.degree.K. To inhibit the process of redn., 10 cm<sup>3</sup> of Me<sub>2</sub>CO was added to the soln. before starting the measurements. The course of redn. was measured spectrophotometrically. The course of the absorption curves

of systems whose redn. was inhibited within 2-40 min, showed that the wavelength of light corresponding to a max. value was always the same for a given sol. This indicated that the growth of nuclei was inhibited and the excess of reduced metal was used exclusively for the formation of new discontinuity elements. It was also found that the direct participation of the solvent in the formation of a new phase (a participation recently discovered on studying other types of colloidal condensation) exerted a certain effect on the size of the forming particles.

SUPPL. TERM: **copper sol** formation

INDEX TERM: Solvent effect

(of alcs., on **copper sol** formation by redn.)

INDEX TERM: Reduction

(of **copper**, in **sol** formation, solvent effects on)

INDEX TERM: 7440-50-8P, uses and miscellaneous

ROLE: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. of sols of, solvent effects on redn. in)

INDEX TERM: 56-81-5, uses and miscellaneous 67-56-1, uses and miscellaneous 71-23-8, uses and miscellaneous

ROLE: PRP (Properties)

(solvent effect of, on redn. in prepn. of **copper sol**)

L13 ANSWER 224 OF 228 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1920:3581 CAPLUS

DOCUMENT NUMBER: 14:3581

ORIGINAL REFERENCE NO.: 14:675d-f

TITLE: **Colloidal** cuprous oxide

AUTHOR(S): Ruoss

SOURCE: Z. anal. Chem. (1919), 58, 193-4

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

CLASSIFICATION: 2 (General and Physical Chemistry)

ABSTRACT:

To 1 cc. of Fehling soln. (3.5 g. **CuSO4.5H2O** + 15 cc.

glycerol + 10 g. NaOH + H2O to make 100 cc.), add 0.5 cc. of 1% dextrose soln.,

1.5 cc. of urine, and 7 cc. H2O; boil, and filter through a double filter.

The

filtrate contains bright red, **colloidal** Cu2O. R. recommends the

following reagent for the detn. of sugar in urine: Dissolve 3.5 g.

\*\*\*CuSO4\*\*\* .5H2O in 20 cc. H2O, cool, add 15 cc. glycerol and 50

cc. NaOH soln. (d. 1.17); then add 5 cc. of 30% KCNS soln. and dil. to 100 cc.

with NaOH soln. (d. 1.17).

L11 ANSWER 356 OF 673 JAPIO COPYRIGHT 2002 JPO  
ACCESSION NUMBER: 2000-247822 JAPIO  
TITLE: LIQUID **ANTIMICROBIAL** COMPOSITION  
INVENTOR: SHIBAYAMA YUJI; YAMAGUCHI TAKASHI  
PATENT ASSIGNEE(S): TOYO BEAUTY KK)  
PATENT INFORMATION:

PATENT NO	KIND	DATE	ERA	MAIN IPC
JP 2000247822A		20000912	Heisei	A61K007-00

JP

APPLICATION INFORMATION

ST19N FORMAT: JP1999-044936 19990223  
ORIGINAL: JP11044936 Heisei  
SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined  
Applications, Vol. 2000  
INT. PATENT CLASSIF.:  
MAIN: A61K007-00  
SECONDARY: A61P031-04 ; A61K033-00

ABSTRACT:

PROBLEM TO BE SOLVED: To obtain both a liquid **antimicrobial** composition comprising a dispersed colloidal metal supported ceramic neither reflocculating nor precipitating, having a stable **antimicrobial** action with time and a cosmetic having a sufficient growth inhibitory effect on molds, yeasts, Escherichia coli, Pseudomonas aeruginosa, etc.

SOLUTION: This liquid **antimicrobial** composition is obtained by dispersing water as a dispersion medium and a dispersoid composed of 0.0001-50 wt.% of an **antimicrobial** metal supported ceramic composed of silver, **copper** or zinc as a **antimicrobial** metal such as silver-supporting zeolite and 0.001-50 wt.% of a water-soluble organic acid such as **citric** acid or malic acid or its salt or a mixture of both the acid and the salt in a **colloidal** state. This cosmetic comprises the liquid **antimicrobial** composition. The **antimicrobial** metal supported ceramic of the **antimicrobial** component is made into a **colloidal** dispersion state to stabilize its **antimicrobial** properties with time.

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L11 ANSWER 379 OF 673 CAPLUS COPYRIGHT 2002 ACS  
ACCESSION NUMBER: 1968:2202 CAPLUS  
DOCUMENT NUMBER: 68:2202  
TITLE: **Fungicidal** properties of Makrolin  
AUTHOR(S): Husain, S. Shahid; Yousuf, Mohammad  
CORPORATE SOURCE: Pakistan Council Sci. Ind. Res., Karachi, Pakistan  
SOURCE: Pak. J. Sci. Ind. Res. (1966), 9(4), 363-9  
CODEN: PSIRAA  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
CLASSIFICATION: 19 (Pesticides)

ABSTRACT:  
Makrolin (I) was tested for its **fungicidal** activity against Alternaria tenuis, Helminthosporium anomalum, and Fusarium dimerum and its properties were compared with **colloidal Cu** and Zerlate (Zn dimethyl dithiocarbamate). I was as effective as Zerlate in controlling the growth of F. dimerum and H. anomalum. I and Zerlate, at 50 ppm., completely inhibited the 2 **fungi**. I was less effective on A. tenuis. I was as effective as **colloidal Cu** in checking the spore germination of F. dimerum and H. anomalum, but less effective than Zerlate. Zerlate and **colloidal Cu** were more effective in controlling the spore germination of A. tenuis than I. 34 references.

SUPPL. TERM: **COPPER MAKROLIN FUNGI; ZERLATE MAKROLIN FUNGI; FUNGICIDES MAKROLIN; MAKROLIN FUNGICIDES**  
INDEX TERM: Makrolin  
ROLE: BIOL (Biological study)  
(**fungicidal** properties of)

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L11 ANSWER 378 OF 673 CAPLUS COPYRIGHT 2002 ACS  
ACCESSION NUMBER: 1968:409883 CAPLUS  
DOCUMENT NUMBER: 69:9883  
TITLE: **Fungitoxicity** of a **copper** based compound, S-3  
AUTHOR(S): Husain, S. Shahid; Hasan, S. Asjad; Yousuf, M.; Ali, G. Mustafa  
CORPORATE SOURCE: Cent. Lab., Pakistan Counc. Sci. Ind. Res., Karachi, Pakistan  
SOURCE: Pak. J. Sci. Ind. Res. (1967), 10(3), 197-200  
CODEN: PSIRAA  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
CLASSIFICATION: 19 (Pesticides)

ABSTRACT:  
A comparison of the effectiveness of **colloidal Cu** and the \*\*\*Cu\*\*\* salt of castor oil (S3) in controlling the growth of **fungi** showed that S3 was more effective against Helminthosporium anomalum, equally \*\*\*so\*\*\* against Fusarium solani, and less **so** against F. dimerum and Alternaria tenuis. 10 references.

SUPPL. TERM: castor oil Cu **fungicides**; **copper** compds  
**fungitoxicity**; **fungicides** Cu compds

INDEX TERM: Helminthosporium  
(anomalum, control of)

INDEX TERM: **Fungicides**  
(colloidal **copper** and **copper** salt of  
castor oil as)

INDEX TERM: Fusarium  
(dimerum and solani, control of)

INDEX TERM: Alternaria  
(tenuis, control of)

INDEX TERM: **Copper**, with castor oil  
ROLE: AGR (Agricultural use); BAC (Biological activity or  
effector, except adverse); BIOL (Biological study); USES  
(Uses)  
(as **fungicide**)

INDEX TERM: 7440-50-8, biological studies  
ROLE: BIOL (Biological study)  
(colloidal, as **fungicide**)

L13 ANSWER 219 OF 228 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1930:44893 CAPLUS

DOCUMENT NUMBER: 24:44893

ORIGINAL REFERENCE NO.: 24:4863b-c

TITLE: Color dispersion and the pharmacological action of

**colloidal** copper sulfate

AUTHOR(S): Meneghetti, E.

SOURCE: Boll. soc. ital. biol. sper. (1929), 4, 613-6

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

CLASSIFICATION: 11H (Biological Chemistry: Pharmacology)

ABSTRACT:

To 50 cc. of H<sub>2</sub>O, 1.25 g. of **CuSO<sub>4</sub>.5H<sub>2</sub>O** is added and mixed with 30 cc. of H<sub>2</sub>O contg. 2 g. of gelatin; H<sub>2</sub>S is then passed through to satn., 10 cc. of N NaOH and 0.6. g. NaCl are added and the mixt. is dild. to 100 cc. with H<sub>2</sub>O. A black **colloidal** soln. of CuS is obtained. This soln. when placed in a sealed flask and heated for 1/2 hr. in a water bath becomes green. The change in color is due to changes in the degree of dispersion. When injected intravenously into rabbits the black CuS incites the production of nucleated red blood cells; the green CuS does not.

L18 ANSWER 7 OF 36 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2001:139655 CAPLUS

DOCUMENT NUMBER: 134:143267

TITLE: Bimetal Cu/Ag colloid as antibacterial agent and its preparing process

INVENTOR(S): Zhao, Bin; Cai, Weifeng; Rong, Hongren; Gu, Hongchen

PATENT ASSIGNEE(S): Huadong Science and Engineering Univ., Peop. Rep. China

SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 12 pp. CODEN: CNXXEV

DOCUMENT TYPE: Patent

LANGUAGE: Chinese

INT. PATENT CLASSIF.:

MAIN: A01N059-20

SECONDARY: A01N025-10

CLASSIFICATION: 5-2 (Agrochemical Bioregulators)

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1262043	A	20000809	CN 2000-111404	20000101

ABSTRACT:

The colloid antibacterial agent is composed of Cu 32-1,100, Ag 250-990, dispersing agent 6,000-50,000 mg, and solvent to 1 L, preferably Cu 397-955, Ag

250-870, dispersing agent 18,000-31,000 mg, and solvent to 1 L. The dispersing

agent is poly(vinyl pyrrolidone), polyvinyl alc., gelatin, methylcellulose, ethylcellulose, acacia, starch, and/or sol. macromol. The solvent is water and/or ethanol. The colloid antibacterial agent is prepd. by prepg. Cu collosol, mixing with dispersing agent and AgNO<sub>3</sub>, and stirring at 0-80.degree. for 1-2 h. The antibacterial agent powder comprises 5-30 part adsorbent and 1 part Cu/Ag colloid powder. The adsorbent is TiO<sub>2</sub>, SiO<sub>2</sub>, ZnO, Zr<sub>3</sub>(PO<sub>4</sub>)<sub>4</sub>, Ca<sub>3</sub>(PO<sub>4</sub>)<sub>2</sub>, zeolite, clay, silica gel/Al<sub>2</sub>O<sub>3</sub>, glass, activated C, or metal. The antibacterial agent powder is prepd. by adsorbing the colloid antibacterial agent with adsorbent for 100-200 min and drying.

SUPPL. TERM: **copper silver colloid bactericide fungicide**

INDEX TERM: Antibacterial agents  
Colloids

**Fungicides**

(bimetal Cu/Ag colloid as antibacterial agent and its prepg. process)

INDEX TERM: **7758-99-8, Copper sulfate, pentahydrate** 7761-88-8, Silver nitrate, biological studies

adverse);  
ROLE: BAC (Biological activity or effector, except

BSU (Biological study, unclassified); BIOL (Biological study)

(bimetal Cu/Ag **colloid** as antibacterial agent and its prepg. process)

L11 ANSWER 660 OF 673 CROPU COPYRIGHT 2002 THOMSON DERWENT

ACCESSION NUMBER: 1996-84828 CROPU F G

TITLE: An economical, non-phytotoxic, **copper** amine  
**fungicide**, which is active at lower rates, can  
penetrate foliage, is not washed off inner tissue by rain

and

has broad spectrum activity.

INVENTOR: Miller J; Kling A

PATENT ASSIGNEE: Punto-Quimica; Idea

LOCATION: Bogota, Col.; Washington, D.C., USA

PATENT INFO: WO 9610918 A1 19960418

APPLICATION INFO: US 1994-319717 19941007

WO 1995-US11673 19950913

DOCUMENT TYPE: Patent

LANGUAGE: English

OTHER SOURCE: WPI: 1996-209579 [21]

#### ABSTRACT:

An aqueous **colloidal** suspension of a **cupric** salt and ammonia, containing 2 moles of ammonia/mole **cupric** salt, is described. The suspension, sprayed onto foliage, gradually releases soluble **\*\*\*copper\*\*\*** compounds, which are toxic to a broad range of **fungi**, including *Alternaria*, *Cladosporium*, and *Botrytis* spp., and is suitable for use on a wide range of plants, notably potato, tomato or strawberry. **\*\*\*Cupric\*\*\*** salts suggested include the **nitrate**, which has an additional fertilizer effect. Rates are 400-800 cc/ha of diluted suspension for potato or tomato plants, and 200-400 cc/ha for strawberries. In an example, a **colloidal** suspension was prepared with 800 cc aqueous **\*\*\*cupric\*\*\* nitrate** solution (containing 2 moles of the salt) and 200 cc of ammonia (containing 4 moles of ammonium), diluted tenfold with water, to give a neutral composition with 2 moles **Cu**/10 l.

#### ABSTRACT EXTENSION:

The suspension is absorbed through the plant foliage into the inner tissue and can remain there, thus attacking both the aerial hyphae and established **\*\*\*fungal\*\*\*** mycelium in the spongy tissue. This product is not washed off by rain, as non-penetrant **copper fungicides** can be, and also does not leave residual stains on leaves. The composition is very effective, needing only about one-tenth the amount of other **Cu \*\*\*fungicides\*\*\***, reducing **Cu** accumulation in the soil, and has low phytotoxicity and toxicity to humans. (11)

SUBJECT HEADING: F Fungicides  
G Galenics

#### CONTROLLED TERM:

STRAWBERRY \*TR; TOMATO \*TR; POTATO \*TR; SOFT-FRUIT \*TR;  
FRUIT-CROP \*TR; CROP \*TR; VEGETABLE \*TR; ROOT-CROP \*TR;  
COMB.PREP. \*FT; COMP. \*FT; SUSPENSION \*FT; COLLOID \*FT;

SPRAY

\*FT; FORMULATION \*FT; APPL. TECHNIQUE \*FT; **CUPRIC-NITRATE**  
\*TR; **CUPRIC-NITRATE** \*OC; CUPRICNO3 \*RN; TR  
\*FT; OC \*FT; AMMONIUM-HYDROXIDE \*TR; AMMONIUM-HYDROXIDE \*OC;  
AMMHYDROX \*RN; N-FERTILIZERS \*FT  
AB; LA; CT

FIELD AVAIL.:

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